

U.S. Patent Application Serial No. 09/816,784
Amendment dated May 6, 2004
Reply to OA of February 12, 2004

IN THE CLAIMS

Please cancel claims 1-7 without prejudice or disclaimer and add new claims 8-28 as follows:

Claims 1-7 (Canceled).

Claim 8 (Withdrawn): A dry etching mask used in a dry-etching under a reaction gas of a carbon monoxide with an additive of a nitrogen containing compound gas, said mask being made of a tantalum or a tantalum nitride.

Claim 9 (New): A dry etching method, comprising:
preparing a cobalt-platinum alloy layer to be etched and a patterned tantalum or a tantalum nitride mask formed on said cobalt-platinum alloy layer; and
reactive dry etching said cobalt-platinum alloy layer using a first reaction gas comprising carbon monoxide and a nitrogen containing gas, wherein said cobalt-platinum alloy layer is selectively etched.

Claim 10 (New): A dry etching method, comprising:
preparing a cobalt-platinum alloy layer to be etched;
forming a patterned tantalum or tantalum nitride mask on said cobalt-platinum alloy layer to form a patterned mask layer; and
selectively etching said cobalt-platinum alloy layer, comprising reactive dry etching said

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cobalt-platinum alloy layer using said patterned mask, under a first reaction gas comprising carbon monoxide and a nitrogen containing gas.

Claim 11 (New): A microfabrication method, comprising:
forming a patterned tantalum mask on a cobalt-platinum alloy layer to be etched; and
reactive dry etching said cobalt-platinum alloy layer using said tantalum mask, under a first reaction gas comprising carbon monoxide and a nitrogen containing gas, wherein said cobalt-platinum alloy layer is selectively etched.

Claim 12 (New): A microfabrication method, comprising:
forming a patterned tantalum nitride mask on a cobalt-platinum alloy layer to be etched; and
reactive dry etching said cobalt-platinum alloy layer using said tantalum nitride mask, under a first reaction gas comprising carbon monoxide and a nitrogen containing gas, wherein said cobalt-platinum alloy layer is selectively etched.

Claim 13 (New): The method of claim 11, further comprising:
prior to said forming a patterned tantalum mask, first forming a resist pattern on said cobalt-platinum alloy layer; and
sputtering a tantalum mask layer using a tantalum target.

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Claim 14 (New): The method of claim 13, said sputtering comprising sputtering under a gas comprising argon.

Claim 15 (New): The method as claimed in claim 12, further comprising:
prior to said forming a patterned tantalum nitride mask, first forming a resist pattern on said cobalt-platinum layer; and
reactive-sputtering a tantalum nitride mask layer using a tantalum target under a second reaction gas comprising at least a nitrogen containing gas.

Claim 16 (New): The method as claimed in claim 12, further comprising:
prior to said forming a patterned tantalum nitride mask, first forming a resist pattern on said cobalt-platinum alloy layer; and
sputtering a tantalum nitride mask layer using a tantalum nitride target.

Claim 17 (New): The method of claim 16, said sputtering comprising sputtering under a gas comprising argon.

Claim 18 (New): The method of claim 9, wherein a ratio of etch rate between said mask and said cobalt-platinum alloy layer is sufficiently large so that said mask is not substantially

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deformed during etching.

Claim 19 (New): The method of claim 10, wherein a ratio of etch rate between said mask and said cobalt-platinum alloy layer is sufficiently large so that said mask is not substantially deformed during etching.

Claim 20 (New): The method of claim 11, wherein a ratio of etch rate between said mask and said cobalt-platinum alloy layer is sufficiently large so that said mask is not substantially deformed during etching.

Claim 21 (New): The method of claim 12, wherein a ratio of etch rate between said mask and said cobalt-platinum alloy layer is sufficiently large so that said mask is not substantially deformed during etching.

Claim 22 (New): The method of claim 9, wherein side etching of said cobalt-platinum alloy layer does not substantially progress from an edge of said mask.

Claim 23 (New): The method of claim 10, wherein side etching of said cobalt-platinum alloy layer does not substantially progress from an edge of said mask.

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Claim 24 (New): The method of claim 11, wherein side etching of said cobalt-platinum alloy layer does not substantially progress from an edge of said mask.

Claim 25 (New): The method of claim 12, wherein side etching of said cobalt-platinum alloy layer does not substantially progress from an edge of said mask.

Claim 26 (New): The method of claim 13, further comprising:
after said sputtering, removing from said cobalt-platinum alloy layer, said resist pattern having said mask layer deposited thereon, to form a patterned mask.

Claim 27 (New): The method of claim 15, further comprising:
after said sputtering, removing from said cobalt-platinum alloy layer, said resist pattern having said mask layer deposited thereon, to form a patterned mask.

Claim 28 (New): The method of claim 16, further comprising:
after said sputtering, removing from said cobalt-platinum alloy layer, said resist pattern having said mask layer deposited thereon, to form a patterned mask.